SIMPLOT RESEARCH CENTER (PWS 6390035)
SOURCE WATER ASSESSMENT FINAL REPORT

May 30, 2002

State of Idaho
Department of Environmental Quality

Executive Summary

Under the Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency (EPA) to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the act. This assessment is based on a land use inventory of the designated assessment area and sensitivity factors associated with the well and aquifer characteristics.

This report, *Source Water Assessment for the Simplot Research Center, Pocatello, Idaho* describes the public drinking water system, the boundaries of the zones of water contribution, and the associated potential contaminant sources located within these boundaries. This assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this source. **The results should <u>not be</u> used as an absolute measure of risk and they should <u>not be</u> used to undermine public confidence in the public water system (PWS).**

The Simplot Research Center (PWS # 6390035) is a non-community, non-transient water system. The drinking water system consists of one well source (Frontier Well). The well serves over 25 persons and is located on the J.R. Simplot Credit Union property.

The potential contaminant sources within the delineation capture zones include aboveground fuel storage tanks (ASTs), underground fuel storage tanks (USTs), sand and gravel pits, wastewater land application (WLAP) sites, and former leaking underground fuel storage tank (LUSTs) sites. Also found were sites regulated under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), Superfund Amendments and Reauthorization Act (SARA), Resource Conservation Recovery Act (RCRA), National Pollutant Discharge Elimination System (NPDES) sites and the Toxic Release Inventory (TRI). Additionally, Highway 30, Interstate 86, and a railroad are transportation corridors that cross the delineations. If an accidental spill occurred from any of these corridors, inorganic chemical contaminants, volatile organic chemical contaminants, synthetic organic chemical contaminants, or microbial contaminants could be added to the aquifer system. Other sources identified that may contribute to the overall vulnerability of the water source were business within the delineated areas that may be considered potential contaminants sources. A complete list of potential contaminant sources is provided with this assessment.

For the assessment, a review of laboratory tests was conducted using the Idaho Drinking Water Information Management System (DWIMS) and the State Drinking Water Information System (SDWIS). Total coliform bacteria were detected at various sample locations in the distribution system between September 1995 and March 2001. Total coliform was found at the wellhead in October and November 1995, and in January 1996. Since November 1998, subsequent samples have not detected total coliform bacteria in the distribution system. The inorganic chemicals, barium, fluoride, nickel, and nitrate have been detected in the drinking water, but at levels below the maximum contaminant level (MCL) for each chemical. Also found were foaming agents (surfactants), chloride, magnesium, potassium, and sulfate. The trihalomethanes detected include bromodichloromethane, bromoform, and chlorodibromomethane. These contaminants are not considered problems with the source water but they are of concern due to their apparent health threat. These disinfection by-products are formed when chlorine or bromine reacts with natural organic matter (NOM). The formation of by-products is also affected by other factors such as pH, temperature, and dose of disinfectant.

Trihalomethanes can cause an increased risk of cancer, liver, kidney, and nervous system problems in long term exposure. The volatile organic chemicals, tetrachloroethylene and dichloromethane were detected in the well water. Tetrachloroethylene was detected in 1999 and 2000 with concentrations ranging from 0.3 micrograms per liter to 0.7 micrograms per liter (MCL is 5 micrograms per liter). Dichloromethane was detected in 1995 at a concentration of 10.9 micrograms per liter (MCL is 5 micrograms per liter). No synthetic organic chemicals have been detected in the drinking water.

The susceptibility ratings for the Simplot Research Center drinking water system were based upon available information relating to soil drainage characteristics, agricultural land use, system construction, and potential contaminant sources identified within the well's zones of contribution. The final susceptibility rankings for the well are high for inorganic, volatile organic, synthetic organic and microbial contaminants.

The capture zones for the well intersects a priority area for the volatile organic chemical tetrachloroethylene. The organic priority area is areas where greater than 25% of the wells show levels greater than 1% of the primary standard or other health standards.

This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a "pristine" area or an area with numerous industrial and/or agricultural land uses that require surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources. If the system should need to expand in the future, new well sites should be located in areas with as few potential sources of contamination as possible, and the site should be reserved and protected for this specific use.

For the Simplot Research Center, drinking water protection activities should continue efforts aimed at keeping the distribution system free of microbial contaminants that may affect the drinking water quality. Should microbial contamination become a problem, appropriate disinfection practices would need to be maintained in a way to protect the drinking water from disinfection by-products, a result of the disinfecting method. Though water cannot be totally free of by-products when disinfection is used, they can be reduced by treatment modifications. See http://www.epa.gov/safewater/mdbp/pdf/alter/chapt_2.gov for suggested processing controls. If other chemicals tested (i.e. tetrachloroethylene or dichloromethane) approach or exceed the maximum contaminant level, the system should take appropriate measures to treat the water source. Treatments, such as reverse osmosis for inorganic chemical contaminants and granular activated charcoal and packed tower aeration for volatile organic contaminants could be investigated to remedy these problems.

In addition, drinking water protection activities should focus on correcting any deficiencies outlined in the sanitary survey (an inspection conducted every five years with the purpose of determining the physical condition of a water system's components and its capacity). The well should maintain sanitary standards regarding wellhead protection. Also, any new sources that could be considered potential contaminant sources in the well's zones of contribution should also be investigated and monitored to prevent future contamination. No potential contaminants (pesticides, paint, fuel, cleaning supplies, etc.) should be stored or applied within 50 feet of the well. Land uses within most of the source water assessment area are outside the direct jurisdiction of the Simplot Research Center. Therefore partnerships with state and local agencies, industrial and commercial groups should be established to ensure future land uses are protective of ground water quality. Educating employees and the public about source water will further assist the system in its monitoring and protection efforts.

Due to the time involved with the movement of ground water, drinking water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term. A strong public education program should be a primary focus of any drinking water protection plan. Public education topics could include household hazardous waste disposal methods, proper lawn and garden care, and the importance of water conservation to name but a few. There are multiple resources available to help water systems implement protection programs, including the Drinking Water Academy of the EPA. Drinking water protection activities for agriculture should be coordinated with the Idaho State Department of Agriculture and the Power County Soil and Water Conservation District. As major transportation corridors intersect the delineation (such as Highway 30 and Interstate 86), the Idaho Department of Transportation should be involved in protection efforts.

A system must incorporate a variety of strategies in order to develop a comprehensive drinking water protection plan, be they regulatory in nature (i.e. zoning, permitting) or non-regulatory in nature (i.e. good housekeeping, public education, specific best management practices). For assistance in developing protection strategies please contact the Pocatello Regional Office of the Idaho Department of Environmental Quality or the Idaho Rural Water Association.

SOURCE WATER ASSESSMENT FOR SIMPLOT RESEARCH CENTER, POCATELLO, IDAHO

Section 1. Introduction - Basis for Assessment

The following sections contain information necessary to understand how and why this assessment was conducted. **It is important to review this information to understand what the ranking of this source means.** A map showing the delineated source water assessment area and the inventory of significant potential sources of contamination identified within that area are contained in this report. The list of significant potential contaminant source categories and their rankings used to develop this assessment is also attached.

Level of Accuracy and Purpose of the Assessment

The Idaho Department of Environmental Quality (DEQ) is required by the U.S. Environmental Protection Agency (EPA) to assess over 2,900 public drinking water sources in Idaho for their relative susceptibility to contaminants regulated by the Safe Drinking Water Act. This assessment is based on a land use inventory of the delineated assessment area, sensitivity factors associated with the wells, and aquifer characteristics. All assessments must be completed by May of 2003. The resources and time available to accomplish assessments are limited. Therefore, an in-depth, site-specific investigation to identify each significant potential source of contamination for every public water system is not possible. **This assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this source. The results should <u>not be</u> used as an absolute measure of risk and they should <u>not be</u> used to undermine public confidence in the public water system (PWS).**

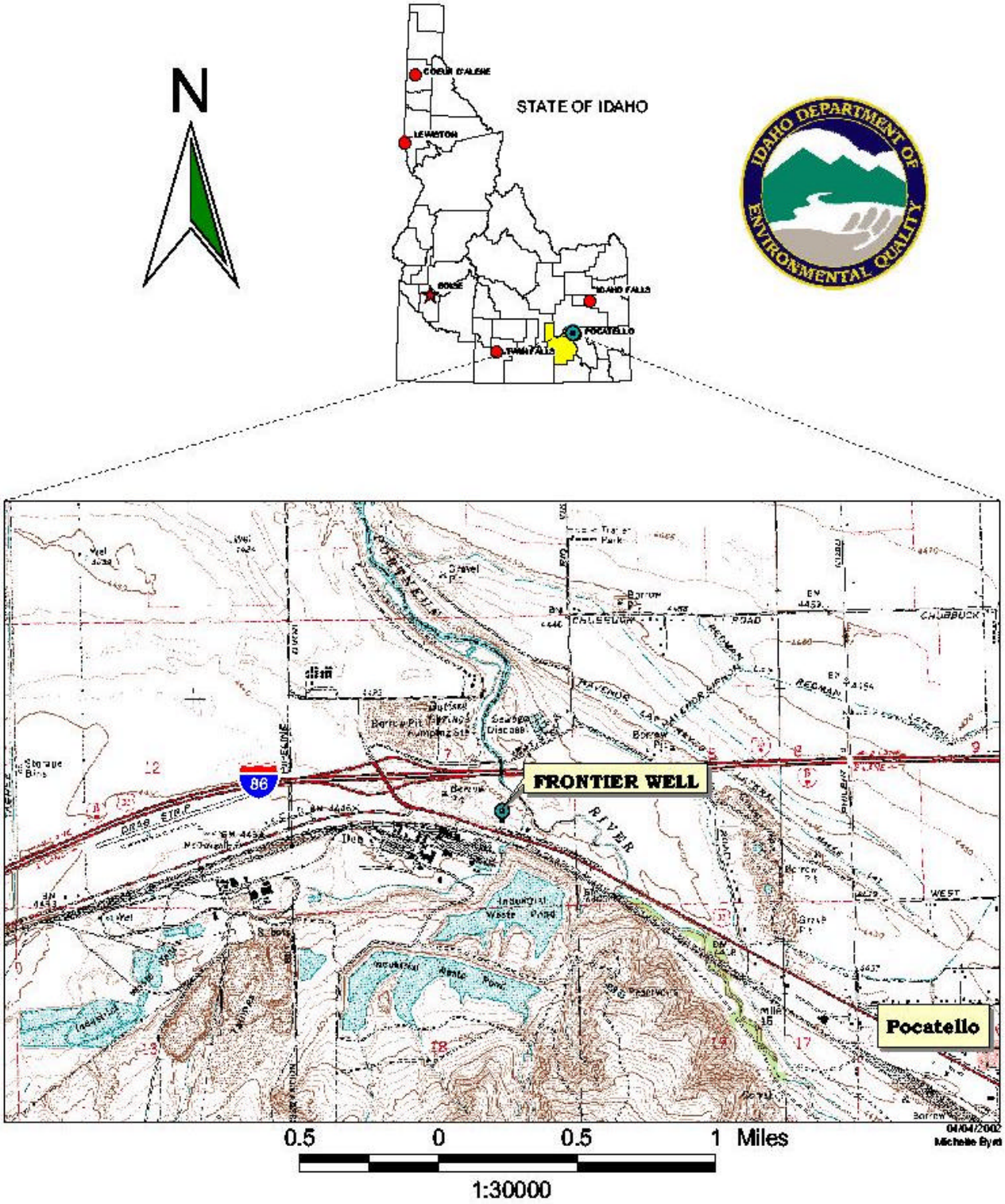
The ultimate goal of the assessment is to provide data to local communities to develop a protection strategy for their drinking water supply system. DEQ recognizes that pollution prevention activities generally require less time and money to implement than treatment of a public water supply system once it has been contaminated. DEQ encourages communities to balance resource protection with economic growth and development. The decision as to the amount and types of information necessary to develop a drinking water protection program should be determined by the local community based on its own needs and limitations. Wellhead or drinking water protection is one facet of a comprehensive growth plan, and it can complement ongoing local planning efforts.

Section 2. Conducting the Assessment

General Description of the Source Water Quality

The Simplot Research Center is a non-community, non-transient public drinking water system located in Power County (Figure 1). This system consists of one well source that provides drinking water to over 25 persons. At this time, the primary water quality issue is the presence of tetrachloroethylene in the drinking water.

FIGURE 1. Geographic Location of Simplot Research Center
PWS No. 6390035, Power County



The inorganic chemicals (IOCs), barium, fluoride, nickel and nitrate represent the main water chemistry constituents recorded in the public water system, although the reported concentrations of these chemicals were below the maximum contaminant level (MCL) for each chemical, as set by the EPA. Total coliform bacteria were detected at various sample locations in the distribution system between September 1995 and March 2001. Total coliform was found at the wellhead in October and November 1995, and in January 1996. Water chemistry tests have not detected synthetic organic contaminants (SOCs) in the drinking water. The volatile organic chemical (VOC), dichloromethane was detected at the wellhead in November 1995 at 10.9 micrograms per liter (µg/L) and was above the maximum contaminant level (MCL) of 5.0 µg/L. The VOC tetrachloroethylene was detected in 1999 and 2000 with concentrations ranging from 0.3 µg/L to 0.7 µg/L.

Defining the Zones of Contribution--Delineation

The delineation process establishes the physical area around a well that will become the focal point of the assessment. The process includes mapping the boundaries of the zone of contribution into time-of-travel zones (zones indicating the number of years necessary for a particle of water to reach a pumping well) for water in the aquifer. Washington Group International (WGI) was contracted by DEQ to define the public water system's zones of contribution. WGI used a refined computer model approved by the EPA in determining the 3-year (Zone 1B), 6-year (Zone 2), and 10-year (Zone 3) Time-of-Travel (TOT) for water associated with the Michaud Flats area of the Eastern Snake River Plain (ESRP) hydrologic province in the vicinity of the Simplot Research Center. The computer model used site specific data, assimilated by WGI from a variety of sources including well logs (when available), operator records, and hydrogeologic reports. A summary of the hydrogeologic information from the WGI report is provided below.

Hydrogeologic Conceptual Model

The East Margin Area encompasses 821 square miles, representing approximately 8 percent of the total area of the ESRP hydrologic province. The majority of the East Margin Area is within Bannock County, with small areas occurring in Bannock, Bonneville, and Power counties.

The regional ESRP aquifer is the most significant aquifer in the East Margin Area and consists primarily of basalt of the Quaternary-aged Snake River Group. However, additional water-bearing units are used for water supply along the margin of the ESRP. In order of decreasing age, the most significant aquifers in the Michaud Flats area are bedded rhyolite (volcanic rock) of the Tertiary-aged Starlight Formation and Quaternary-aged gravels of a low relief plain formed by running water (pediment), basalt of the Big Hole Formation, and stream deposits of the Sunbeam Formation (see Jacobson, 1982, p. 7, and Corbett, et al., 1980, pp. 6-10). A few shallow domestic wells in the central Michaud Flats area also are completed in Michaud Gravel, which is the shallow water-table aquifer. The American Falls Lake Beds Formation (AFLB) confines the deeper aquifers and averages 80 feet in thickness in the central Michaud Flats area (Jacobson, 1984, p. 6). The AFLB pinches out in the eastern Michaud Flats area near the Portneuf River, effectively combining the shallow and deep stream deposits into a single water table aquifer (Bechtel, 1994, p. 2-2). Other aquifers in the East Margin Area include fractured quartzite that has been developed near Blackfoot, stream deposits near the cities of Firth and Basalt.

PWS wells in the East Margin Area of the ESRP province produce water from five different aquifers: the Regional Eastern Snake River Plain aquifer, three alluvial (or stream deposited) aquifers (Eastern Michaud Flats, Firth/Basalt, and Gibson Terrace/Pocatello Bench) and a quartzite aquifer (Blackfoot).

Alluvial Aquifer (Eastern Michaud Flats)

The Simplot Research Center well is completed or assumed to be completed in the alluvial aquifer in the Eastern Michaud Flats area near the Portneuf River. The average hydraulic conductivity for the alluvial aquifer in this area is 318 ft/day, based upon 18 slug tests conducted during a remedial investigation (Bechtel, 1996, Figure 3.3-7B). Analysis of specific capacity data from PWS wells completed in the alluvial aquifer using the method of Walton (1962) results in estimates of hydraulic conductivity ranging from 291 to 361 feet/day, with a geometric mean of 321 feet./day (p. B-2).

The direction of ground water flow is generally to the north and northwest. Hydraulic gradients range from 1.0 to 5.0 feet/mile (0.0002 to 0.0009; Jacobson, 1984, p. 14). In areas closest to the Portneuf River, ground water flow is more easterly, toward the river (Bechtel, 1996, Figure 3.3-9, and Spinazola et al., 1997, p. 16).

The hydrology of the eastern Michaud Flats is affected by the presence of a large gypsum impoundment. Gypsum is slurried into the impoundment at a rate of 1,500 gallons/minute, and an estimated 500 gallons/minute recharges the alluvial aquifer (Bechtel, 1994, p. 2-8).

Published estimates for recharge in the eastern Michaud Flats area vary by more than an order of magnitude. Bechtel (1994, p. 2-7) indicates an average recharge of 1.09 in./year, whereas Garabedian (1992, Plate 8) indicates a value of between 15 and 20 in./year.

The delineated source water assessment area for the Simplot Research Center well trends in an east-northeast direction. The length of the delineation extends approximately 8 miles. Multi-directional flow can be attributed, in part, to an unconformity between the bedrock of the Bannock Range and the valley fill in the eastern Michaud flats area, as well as facies change between coarse-grained alluvium and fine-grained lakebed deposits near American Falls Reservoir (WGI, 2001. p.14). The actual data used by WGI in determining the source water assessment delineation areas are available from DEQ upon request.

Identifying Potential Sources of Contamination

A potential source of contamination is defined as any facility or activity that stores, uses, or produces, as a product or by-product, the contaminants regulated under the Safe Drinking Water Act. Furthermore, these sources have a sufficient likelihood of releasing such contaminants into the environment at levels that could pose a concern relative to drinking water sources. The goal of the inventory process is to locate and describe those facilities, land uses, and environmental conditions that are potential sources of ground water contamination. Field surveys conducted by DEQ and reviews of available databases identified potential contaminant sources within the delineation areas. Some of these sources include aboveground fuel storage tanks (ASTs), underground fuel storage tanks (USTs), sand and gravel pits, former leaking underground storage tanks (LUSTs) and wastewater land application (WLAP) sites.

It is important to understand that a release may never occur from a potential source of contamination provided best management practices are used at the facility. Many potential sources of contamination are regulated at the federal level, state level, or both to reduce the risk of release. Therefore, when a business, facility, or property is identified as a potential contaminant source, this should not be interpreted to mean that this business, facility, or property is in violation of any local, state, or federal environmental law or regulation. What it does mean is that the potential for contamination exists due to the nature of the business, industry, or operation. There are a number of methods that water systems can use to work cooperatively with potential sources of contamination, such as educational visits and inspections of stored materials. Many owners of such facilities may not even be aware that they are located near a public water supply well.

Contaminant Source Inventory Process

A two-phased contaminant inventory of the study area was conducted during January of 2002. The first phase involved identifying and documenting potential contaminant sources within the Simplot Research Center source water assessment area through the use of computer databases and Geographic Information System (GIS) maps developed by DEQ. The second, or enhanced, phase of the contaminant inventory involved contacting the operator to validate the sources identified in phase one and to add any additional potential sources in the area. This task was undertaken with the assistance of Mr. Norm Self. At the time of the enhanced inventory, potential contaminant sources were found within the delineated source water area. Maps with well locations, delineated areas and potential contaminant sources are provided with this report (Figure 2). Each potential contaminant source has been given a unique site number that references tabular information associated with the public water well (Appendix A).

Section 3. Susceptibility Analyses

The susceptibility of the well to contamination was ranked as high, moderate, or low risk according to the following considerations: hydrologic characteristics, physical integrity of the well, land use characteristics, and potentially significant contaminant sources. The susceptibility rankings are specific to a particular potential contaminant or category of contaminants. Therefore, a high susceptibility rating relative to one potential contaminant does not mean that the water system is at the same risk for all other potential contaminants. The relative ranking that is derived for the well is a qualitative, screening-level step that, in many cases, uses generalized assumptions and best professional judgement. Appendix B contains the susceptibility analysis worksheets. The following summaries describe the rationale for the susceptibility ranking.

Hydrologic Sensitivity

The hydrologic sensitivity of a well is dependent upon four factors. These factors are surface soil composition, the material in the vadose zone (between the land surface and the water table), the depth to first ground water, and the presence of a 50-foot thick fine-grained zone above the water producing zone of the well. Slowly draining soils such as silt and clay typically are more protective of ground water than coarse-grained soils such as sand and gravel. Similarly, fine-grained sediments in the subsurface and a water depth of more than 300 feet from the surface protect the ground water from contamination.

Hydrologic sensitivity was rated moderate for the well (Table 1). This is based upon poor to moderate drained soil classes defined by the National Resource Conservation Service (NRCS). Soils that have poor to moderate drainage characteristics have better filtration capabilities than faster draining soils. There was also insufficient well log information to evaluate the vadose zone composition, the first depth to ground water, and whether there is at least 50 feet of cumulative thickness of low permeability material that could reduce the downward movement of contaminants.

Well Construction

Well construction directly affects the ability of the well to protect the aquifer from contaminants. System construction scores are reduced when information shows that potential contaminants will have a more difficult time reaching the intake of the well. Lower scores imply a system that can better protect the water. If the casing and annular seal both extend into a low permeability unit then the possibility of cross contamination from other aquifer layers is reduced and the system construction score goes down. If the highest production interval is more than 100 feet below the water table, then the system is considered to have better buffering capabilities. When information was adequate, a determination was made as to whether the casing and annular seals extend into low permeability units and whether current public water system construction standards are met.

The system construction score was rated high for the well. The 1998 sanitary survey states the wellhead does not have an acceptable well vent. The purpose of the vent is to vent the space between the casing and the column and prevent a vacuum from forming when the well turns on and draws down the water table. A vacuum could draw in contamination through joints or leaks in the casing or cause the well to slough. The sanitary survey also states the well is located in a concrete vault below ground surface. No well log information was available to determine whether the well casing and annular seal extend into a low permeable geologic formation, two important aspects of proper well construction. The well is located outside a 100-year floodplain, which may decrease the chance of contaminants being drawn into the drinking water source by surface water flooding.

The Idaho Department of Water Resources (IDWR) *Well Construction Standards Rules (1993)* require all public water systems to follow DEQ standards. IDAPA 58.01.08.550 requires that PWSs follow the *Recommended Standards for Water Works (1997)* during construction. Under current standards, all PWS wells are required to have a 50-foot buffer around the wellhead and if the well is designed to yield greater than 50 gallons per minute (gpm) a minimum of a 6-hour pump test is required. These standards are used to rate the system construction for the well by evaluating items such as condition of wellhead and surface seal, whether the casing and annular space is within consolidated material or 18 feet below the surface, the thickness of the casing, etc. If all criteria are not met, the public water source does not meet the IDWR Well Construction Standards. In this case, there was insufficient information available to determine if the well meets all the criteria outlined in the IDWR Well Construction Standards.

Potential Contaminant Source and Land Use

The potential contaminant sources and land use within the delineated zones of water contribution are assessed to determine the well's susceptibility. When agriculture is the predominant land use in the area, this may increase the likelihood of agricultural wastewater infiltrating the ground water system. Agricultural land is counted as a source of leachable contaminants and points are assigned to this rating based on the percentage of agricultural land. The predominant land use within the delineated capture zones of the Simplot Research Center is irrigated agricultural land.

In terms of potential contaminant sources and land use susceptibility the ratings are as follows. The well rated high for IOCs (i.e., nitrates), VOCs (i.e. petroleum related products) and SOCs (i.e., pesticides), and moderate for microbial contaminants (i.e., fecal coliform).

Potential contaminant sources were found within the delineated areas. There are ASTs, USTs, and LUSTs that may contain diesel fuel, gasoline, heating oil, or other chemical and petroleum related products. Other sources include those identified under the Superfund Amendments and Reauthorization Act (SARA), Resource Conservation Recovery Act (RCRA), Comprehensive Environmental Response Compensation and Liability Act (CERCLA), National Pollutant Discharge Elimination System (NPDES), Sites, and a Toxic Release Inventory (TRI) location. In addition, business mailing list (bml) sources within the delineated zones were evaluated. This includes any business that may use or store chemicals that could potentially contaminate the ground water. Most of the potential contaminant sources fall within the 6-10 year time of travel for the well. Refer to Appendix A for a complete list of potential contaminant sources. The locations of potential contaminant sources and delineated TOT zones for the well are shown on Figure 2.

Final Susceptibility Rating

A detection above a drinking water standard (MCL), any detection of a VOC or SOC, or having potential contaminant sources within 50 feet of the wellhead will automatically give a high susceptibility rating to the final well ranking despite the land use of the area because a pathway for contamination already exists. Hydrologic sensitivity and system construction scores are heavily weighted in the final scores. Having multiple potential contaminant sources in the 0 to 3-year time of travel zone (Zone 1B) and a large percentage of agricultural land contribute greatly to the overall ranking. The final susceptibility ranking for the well was high for IOC, VOC, SOC, and microbial contaminants. These ratings reflect the hydrologic sensitivity, system construction, and potential contaminants inventory and land use within the delineated source water assessment areas for the well.

Table 1. Summary of Simplot Research Center Susceptibility Evaluation

Drinking Water Source	Susceptibility Scores									
	Hydrologic Sensitivity	Potential Contaminant Inventory and Land Use				System Construction	Final Susceptibility Ranking			
		IOC	VOC	SOC	Microbials		IOC	VOC	SOC	Microbials
Frontier Well	M	H	H	H	M	H	H	H*	H	H

H = High Susceptibility, M = Moderate Susceptibility, L = Low Susceptibility
IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical, H* = Indicates source automatically scored high due to presence of the tetrachloroethylene and dichloromethane in the finished drinking water.

Susceptibility Summary

The overall susceptibility ranking was high for each contaminant category. The IOCs barium, fluoride, nickel, nitrate, bromodichloromethane, bromoform, chlorodibromomethane, foaming agents (surfactants), chloride, magnesium, potassium, and sulfate represent the main water chemistry recorded in the public water system, although the reported concentrations of these chemicals were below the MCL for each chemical. Water chemistry tests have not detected SOCs in the drinking water.

The county level agriculture-chemical use is considered moderate in this area. Although there may only be a small portion of agriculture land in the direct vicinity of the well, it is useful as a tool in determining the overall chemical usage such as pesticides and how it may impact ground water through infiltration and surface water runoff. In addition, there were potential sources of contamination found within the well's delineated TOT zones (Figure 2).

As no well log for the well was available during this analysis, the rating automatically defaulted to a higher score. If a well log had been available, system construction and hydrologic sensitivity scores for the well might have been lower.

Section 4. Options for Drinking Water Protection

This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a “pristine” area or an area with numerous industrial and/or agricultural land uses that require surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources. If the system should need to expand in the future, new well sites should be located in areas with as few potential sources of contamination as possible, and the site should be reserved and protected for this specific use.

For the Simplot Research Center, drinking water protection activities should continue efforts aimed at keeping the distribution system free of microbial contaminants that may affect the drinking water quality. Should microbial contamination become a problem, appropriate disinfection practices would need to be maintained in a way to protect the drinking water from disinfection by-products, a result of the disinfecting method. Though water cannot be totally free of by-products when disinfection is used, they can be reduced by treatment modifications. See http://www.epa.gov/safewater/mdbp/pdf/alter/chapt_2.gov for suggested processing controls. If other chemicals tested (i.e. tetrachloroethylene or dichloromethane) approach or exceed the maximum contaminant level, the system should take appropriate measures to treat the water source. Treatments, such as reverse osmosis for inorganic chemical contaminants and granular activated charcoal and packed tower aeration for volatile organic contaminants should be investigated to remedy these problems.

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Due to the time involved with the movement of ground water, drinking water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term. A strong public education program should be a primary focus of any drinking water protection plan. Public education topics could include household hazardous waste disposal methods, proper lawn and garden care, and the importance of water conservation to name but a few. There are multiple resources available to help water systems implement protection programs, including the Drinking Water Academy of the EPA. Drinking water protection activities for agriculture should be coordinated with the Idaho State Department of Agriculture and the Power County Soil and Water

Conservation District. As major transportation corridors intersect the delineation (such as Highway 30 and Interstate 86), the Idaho Department of Transportation should be involved in protection efforts.

A system must incorporate a variety of strategies in order to develop a comprehensive drinking water protection plan, be they regulatory in nature (i.e. zoning, permitting) or non-regulatory in nature (i.e. good housekeeping, public education, specific best management practices). For assistance in developing protection strategies please contact the Pocatello Regional Office of the DEQ or the Idaho Rural Water Association.

Assistance

Public water supplies and others may call the following DEQ offices with questions about this assessment and to request assistance with developing and implementing a local protection plan. In addition, draft protection plans may be submitted to the DEQ office for preliminary review and comments.

DEQ Pocatello Regional Office (208) 236-6160

DEQ State Office (208) 373-0502

Website: http://www.deq.state.id.us

Water suppliers serving fewer than 10,000 persons may contact Ms. Melinda Harper, Idaho Rural Water Association, at 208-343-7001 (mlharper@idahoruralwater.com) for assistance with drinking water protection (formerly wellhead protection) strategies.

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POTENTIAL CONTAMINANT INVENTORY LIST OF ACRONYMS AND DEFINITIONS

AST (Aboveground Storage Tanks) – Sites with aboveground storage tanks.

Business Mailing List – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

CERCLIS – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as Superfund is designed to clean up hazardous waste sites that are on the national priority list (NPL).

Cyanide Site – DEQ permitted and known historical sites/facilities using cyanide.

Dairy – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

Deep Injection Well – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

Enhanced Inventory – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (DEQ) during the primary contaminant inventory.

Floodplain – This is a coverage of the 100-year floodplains.

Group 1 Sites – These are sites that show elevated levels of contaminants and are not within the priority one areas.

Inorganic Priority Area – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

Landfill – Areas of open and closed municipal and non-municipal landfills.

LUST (Leaking Underground Storage Tank) – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

Mines and Quarries – Mines and quarries permitted through the Idaho Department of Lands.)

Nitrate Priority Area – Area where greater than 25% of wells/springs show nitrate values above 5 mg/l.

NPDES (National Pollutant Discharge Elimination System) – Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

Organic Priority Areas – These are any areas where greater than 25% of wells/springs show levels greater than 1% of the primary standard or other health standards.

Recharge Point – This includes active, proposed, and possible recharge sites on the Snake River Plain.

RCRA – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities) – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

Toxic Release Inventory (TRI) – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

UST (Underground Storage Tank) – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

Wastewater Land Applications Sites – These are areas where the land application of municipal or industrial wastewater is permitted by DEQ.

Wellheads – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

NOTE: Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Appendix A

Simplot Research Center
Potential Contaminant Inventory

Table 2. Potential Contaminants

Site #	Source Description[1]	TOT Zone (years)[2]	Source of Information	Potential Contaminants[3]
1	LUST Site-Cleanup Complete	0-3	Database Inventory	VOC, SOC
2	LUST Site-Cleanup Complete	0-3	Database Inventory	VOC, SOC
3	UST Site-Closed	0-3	Database Inventory	VOC, SOC
4	UST Site-Open	0-3	Database Inventory	VOC, SOC
5	UST Site-Closed	0-3	Database Inventory	VOC, SOC
6	UST Site-Open	0-3	Database Inventory	VOC, SOC
8	Excavating Contractors	0-3	Database Inventory	IOC, VOC, SOC
9	Service Stations-Gasoline & Oil	0-3	Database Inventory	VOC, SOC
10	NPDES Site	0-3	Database Inventory	IOC, Microbials
12	NPDES Site	0-3	Database Inventory	IOC, Microbials
13	Toxic Release Inventory Site	0-3	Database Inventory	VOC, SOC
14	CERCLA Site	0-3	Database Inventory	IOC, VOC, SOC
15	CERCLA Site	0-3	Database Inventory	IOC, VOC, SOC
16	CERCLA Site	0-3	Database Inventory	VOC, SOC
17	Mine	0-3	Database Inventory	IOC, VOC, SOC
18	SARA Site	0-3	Database Inventory	IOC, VOC, SOC
19	SARA Site	0-3	Database Inventory	IOC, SOC
20	SARA Site	0-3	Database Inventory	VOC, SOC
21	SARA Site	0-3	Database Inventory	IOC, VOC, SOC
22	Wastewater Land Application Site	0-3	Enhanced Inventory	IOC, Microbials
23	UST Site-Open	3-6	Database Inventory	VOC, SOC
24	UST Site-Closed	3-6	Database Inventory	VOC, SOC
25	Engines-Diesel (Wholesale)	3-6	Database Inventory	VOC, SOC
26	Painters	3-6	Database Inventory	VOC
28	Janitor Service	3-6	Database Inventory	VOC
29	Excavating Contractors	3-6	Database Inventory	IOC, VOC, SOC
30	Home Improvements	3-6	Database Inventory	IOC, VOC, SOC
31	Roofing Contractors	3-6	Database Inventory	IOC, VOC, SOC
32	Construction Machinery & Equip	3-6	Database Inventory	VOC, SOC
33	General Contractors	3-6	Database Inventory	IOC, VOC, SOC
34	NPDES Site	3-6	Database Inventory	IOC
35	RCRA Site	3-6	Database Inventory	IOC, VOC, SOC
36	Mine	3-6	Database Inventory	IOC, VOC, SOC
38	SARA Site	3-6	Database Inventory	IOC, VOC, SOC
39	Wastewater Land Application Site	3-6	Enhanced Inventory	IOC
40	LUST Site-Cleanup Complete	6-10	Database Inventory	VOC, SOC
41	LUST Site-Cleanup Complete	6-10	Database Inventory	VOC, SOC
42	UST Site-Closed	6-10	Database Inventory	VOC, SOC
43	UST Site-Open	6-10	Database Inventory	VOC, SOC
44	UST Site-Open	6-10	Database Inventory	VOC, SOC
45	UST Site-Open	6-10	Database Inventory	VOC, SOC
46	UST Site-Open	6-10	Database Inventory	VOC, SOC

Site #	Source Description[1]	TOT Zone (years)[2]	Source of Information	Potential Contaminants[3]
47	UST Site-Open	6-10	Database Inventory	VOC, SOC
48	UST Site-Open	6-10	Database Inventory	VOC, SOC
49	UST Site-Open	6-10	Database Inventory	VOC, SOC
50	UST Site-Closed	6-10	Database Inventory	VOC, SOC
51	UST Site-Closed	6-10	Database Inventory	VOC, SOC
52	UST Site-Closed	6-10	Database Inventory	VOC, SOC
53	UST Site-Closed	6-10	Database Inventory	VOC, SOC
54	UST Site-Open	6-10	Database Inventory	VOC, SOC
55	UST Site-Open	6-10	Database Inventory	VOC, SOC
56	UST Site-Open	6-10	Database Inventory	VOC, SOC
57	UST Site-Closed	6-10	Database Inventory	VOC, SOC
58	UST Site-Open	6-10	Database Inventory	VOC, SOC
59	UST Site-Closed	6-10	Database Inventory	VOC, SOC
60	UST Site-Closed	6-10	Database Inventory	VOC, SOC
61	UST Site-Closed	6-10	Database Inventory	VOC, SOC
62	UST Site-Closed	6-10	Database Inventory	VOC, SOC
63	UST Site-Open	6-10	Database Inventory	VOC, SOC
64	UST Site-Open	6-10	Database Inventory	VOC, SOC
65	UST Site-Closed	6-10	Database Inventory	VOC, SOC
66	UST Site-Closed	6-10	Database Inventory	VOC, SOC
67	UST Site-Closed	6-10	Database Inventory	VOC, SOC
68	UST Site-Open	6-10	Database Inventory	VOC, SOC
69	UST Site-Closed	6-10	Database Inventory	VOC, SOC
70	UST Site-Open	6-10	Database Inventory	VOC, SOC
71	UST Site-Closed	6-10	Database Inventory	VOC, SOC
72	UST Site-Closed	6-10	Database Inventory	VOC, SOC
73	UST Site-Open	6-10	Database Inventory	VOC, SOC
74	UST Site-Closed	6-10	Database Inventory	VOC, SOC
75	UST Site-Closed	6-10	Database Inventory	VOC, SOC
76	UST Site-Closed	6-10	Database Inventory	VOC, SOC
77	UST Site-Closed	6-10	Database Inventory	VOC, SOC
78	UST Site-Open	6-10	Database Inventory	VOC, SOC
79	UST Site-Open	6-10	Database Inventory	VOC, SOC
80	UST Site-Closed	6-10	Database Inventory	VOC, SOC
81	UST Site-Closed	6-10	Database Inventory	VOC, SOC
82	UST Site-Closed	6-10	Database Inventory	VOC, SOC
83	UST Site-Closed	6-10	Database Inventory	VOC, SOC
84	UST Site-Closed	6-10	Database Inventory	VOC, SOC
85	UST Site-Closed	6-10	Database Inventory	VOC, SOC
86	UST Site-Closed	6-10	Database Inventory	VOC, SOC
87	UST Site-Open	6-10	Database Inventory	VOC, SOC
88	UST Site-Open	6-10	Database Inventory	VOC, SOC
89	UST Site-Closed	6-10	Database Inventory	VOC, SOC

Site #	Source Description[1]	TOT Zone (years)[2]	Source of Information	Potential Contaminants[3]
90	Remodeling/Repairing Building Contract	6-10	Database Inventory	IOC, VOC, SOC
91	Trucking-Motor Freight	6-10	Database Inventory	VOC, SOC
92	Automobile Repairing & Service	6-10	Database Inventory	IOC, VOC, SOC
93	Boat Dealers	6-10	Database Inventory	VOC, SOC
94	Automobile Repairing & Service	6-10	Database Inventory	IOC, VOC, SOC
95	Veterinarians	6-10	Database Inventory	IOC, SOC
96	Automobile Repairing & Service	6-10	Database Inventory	IOC, VOC, SOC
97	Automobile Body-Repairing & Painting	6-10	Database Inventory	IOC, VOC, SOC
98	Corrosion Control	6-10	Database Inventory	IOC, VOC, SOC
99	Concrete Contractors	6-10	Database Inventory	IOC, VOC, SOC
100	Wrecker Service	6-10	Database Inventory	IOC, VOC, SOC
101	Carpet & Rug Cleaners	6-10	Database Inventory	VOC
103	Carpet & Rug Cleaners	6-10	Database Inventory	VOC
104	Automobile Body-Repairing & Painting	6-10	Database Inventory	IOC, VOC, SOC
105	Meat Processing	6-10	Database Inventory	IOC
106	Campgrounds	6-10	Database Inventory	IOC, VOC, SOC
107	Tile-Ceramic-Contractors & Dealers	6-10	Database Inventory	VOC, SOC
108	Automobile Dealers-Used Cars	6-10	Database Inventory	VOC, SOC
110	Automobile Dealers-Used Cars	6-10	Database Inventory	VOC, SOC
111	Steel Fabricators	6-10	Database Inventory	IOC, VOC
112	Towers (Manufacturers)	6-10	Database Inventory	IOC, VOC
113	Wrecker Service	6-10	Database Inventory	IOC, VOC, SOC
114	Fire Departments	6-10	Database Inventory	VOC, SOC
115	Parking Area Maintenance & Marking	6-10	Database Inventory	VOC, SOC
117	Automobile Lubrication Service	6-10	Database Inventory	IOC, VOC, SOC
118	Automobile Dealers-Used Cars	6-10	Database Inventory	VOC, SOC
119	Photographers-Commercial	6-10	Database Inventory	IOC, VOC
120	Canvas Goods-Manufacturers	6-10	Database Inventory	VOC
121	Electric Equipment & Supplies (Wholesale)	6-10	Database Inventory	IOC, VOC
122	Landscape Contractors	6-10	Database Inventory	IOC, SOC
124	Wrecker Service	6-10	Database Inventory	IOC, VOC, SOC
125	Laboratories-Dental	6-10	Database Inventory	IOC, VOC, SOC
126	Hardware (Manufacturers)	6-10	Database Inventory	IOC, VOC, SOC
128	Service Station Equipment (Wholesale)	6-10	Database Inventory	IOC, VOC, SOC
129	Foundation-Contractors	6-10	Database Inventory	IOC, VOC, SOC
130	Commercial Printing NEC	6-10	Database Inventory	IOC, VOC
131	Excavating Contractors	6-10	Database Inventory	IOC, VOC, SOC
132	Automobile Dealers-Used Cars	6-10	Database Inventory	VOC, SOC
133	Wreckers-Dealers	6-10	Database Inventory	IOC, VOC, SOC
134	Automobile Repairing & Service	6-10	Database Inventory	IOC, VOC, SOC
135	Automobile Parts & Supplies-Retail	6-10	Database Inventory	VOC, SOC
136	Veterinarians	6-10	Database Inventory	IOC, SOC
137	Recreational Vehicles-Repairing	6-10	Database Inventory	IOC, VOC, SOC

Site #	Source Description[1]	TOT Zone (years)[2]	Source of Information	Potential Contaminants[3]
138	Automobile Lubrication Service	6-10	Database Inventory	IOC, VOC, SOC
139	Automobile Dealers-Used Cars	6-10	Database Inventory	VOC, SOC
140	Oils-Waste (Wholesale)	6-10	Database Inventory	VOC, SOC
141	Mobile Homes-Repairing & Service	6-10	Database Inventory	IOC, VOC, SOC
142	Veterinarians	6-10	Database Inventory	IOC, SOC
144	Recreational Vehicles	6-10	Database Inventory	VOC, SOC
147	Painters	6-10	Database Inventory	VOC
148	Excavating Contractors	6-10	Database Inventory	IOC, VOC, SOC
149	Trailers-Truck (Wholesale)	6-10	Database Inventory	VOC, SOC
150	Trailers-Camping & Travel	6-10	Database Inventory	VOC, SOC
152	Storage-Household & Commercial	6-10	Database Inventory	IOC, VOC, SOC
153	Tree Service	6-10	Database Inventory	IOC, SOC
155	Automobile Dealers-Used Cars	6-10	Database Inventory	VOC, SOC
156	Carpet & Rug Cleaners	6-10	Database Inventory	VOC
157	Photographers-Portrait	6-10	Database Inventory	IOC, VOC
158	Automobile Repairing & Service	6-10	Database Inventory	IOC, VOC, SOC
159	General Contractors	6-10	Database Inventory	IOC, VOC, SOC
160	Trucking-Liquid & Dry Bulk	6-10	Database Inventory	VOC, SOC
161	Landscape Contractors	6-10	Database Inventory	IOC, SOC
163	Excavating Contractors	6-10	Database Inventory	IOC, VOC, SOC
164	General Contractors	6-10	Database Inventory	IOC, VOC, SOC
165	Machine Shops	6-10	Database Inventory	IOC, VOC, SOC
166	Wrecker Service	6-10	Database Inventory	IOC, VOC, SOC
167	Tire-Dealers-Retail	6-10	Database Inventory	VOC, SOC
168	Signs (Manufacturers)	6-10	Database Inventory	IOC, VOC, SOC
169	Automobile Body-Repairing & Painting	6-10	Database Inventory	IOC, VOC, SOC
170	Automobile Repairing & Service	6-10	Database Inventory	IOC, VOC, SOC
172	Motorcycles & Motor Scooters-Repair	6-10	Database Inventory	IOC, VOC, SOC
173	Lawn Mowers	6-10	Database Inventory	VOC, SOC
174	General Contractors	6-10	Database Inventory	IOC, VOC, SOC
175	Trucking-Motor Freight	6-10	Database Inventory	VOC, SOC
176	Gas Companies	6-10	Database Inventory	VOC, SOC
177	Recycling Centers (Wholesale)	6-10	Database Inventory	VOC
178	Painters	6-10	Database Inventory	VOC
179	Recreational Vehicles	6-10	Database Inventory	VOC, SOC
181	Engravers-Glassware (Manufacturers)	6-10	Database Inventory	VOC, SOC
182	Electric Motors-Dealers/Repairing (Wholesale)	6-10	Database Inventory	IOC, VOC
183	Concrete Contractors	6-10	Database Inventory	IOC, VOC, SOC
184	Industrial Equipment & Supplies	6-10	Database Inventory	VOC, SOC
185	Pumps (Wholesale)	6-10	Database Inventory	VOC, SOC
187	Delivery Service	6-10	Database Inventory	VOC, SOC
188	Building Contractors	6-10	Database Inventory	IOC, VOC, SOC
189	Tree Service	6-10	Database Inventory	IOC, SOC

Site #	Source Description[1]	TOT Zone (years)[2]	Source of Information	Potential Contaminants[3]
190	Sanitation Services	6-10	Database Inventory	IOC, VOC, SOC
191	Ornamental Metal Work (Manufacturer)	6-10	Database Inventory	IOC, VOC
192	Carpet & Rug Cleaners	6-10	Database Inventory	VOC
193	Mobile Homes-Transporting	6-10	Database Inventory	VOC, SOC
194	General Contractors	6-10	Database Inventory	IOC, VOC, SOC
195	Recreational Vehicles	6-10	Database Inventory	VOC, SOC
196	Machine Shops	6-10	Database Inventory	IOC, VOC, SOC
197	Phosphatic Fertilizers (Manufacture)	6-10	Database Inventory	IOC, SOC
198	Steel Fabricators	6-10	Database Inventory	IOC, VOC
199	Glass Coating & Tinting	6-10	Database Inventory	IOC, VOC
200	Paving Contractors	6-10	Database Inventory	VOC, SOC
201	General Contractors	6-10	Database Inventory	IOC, VOC, SOC
202	Lawn Maintenance	6-10	Database Inventory	IOC, SOC
203	Automobile Repairing & Service	6-10	Database Inventory	IOC, VOC, SOC
204	Transformers (Wholesale)	6-10	Database Inventory	VOC, SOC
205	Trucking-Motor Freight	6-10	Database Inventory	VOC, SOC
206	Truck Renting & Leasing	6-10	Database Inventory	VOC, SOC
207	Automobile Parts & Supplies-Retail	6-10	Database Inventory	VOC, SOC
208	Federal Government-National Security	6-10	Database Inventory	VOC, SOC
209	Government-Forestry Services	6-10	Database Inventory	VOC, SOC
210	Federal Government-National Security	6-10	Database Inventory	VOC, SOC
211	Automobile Repairing & Service	6-10	Database Inventory	IOC, VOC, SOC
212	Recycling Centers (Wholesale)	6-10	Database Inventory	VOC
213	Trucking-Motor Freight	6-10	Database Inventory	VOC, SOC
214	Automobile Parts-Used & Rebuilt	6-10	Database Inventory	VOC, SOC
215	Road Service-Automotive	6-10	Database Inventory	VOC, SOC
217	Automobile Repairing & Service	6-10	Database Inventory	IOC, VOC, SOC
218	Electric Motors-Dealers/Repairing (Wholesale)	6-10	Database Inventory	IOC, VOC
219	Contractors-Equip/Supply-Dealers/Service	6-10	Database Inventory	IOC, VOC, SOC
220	Movers	6-10	Database Inventory	VOC, SOC
221	NPDES Site	6-10	Database Inventory	IOC
222	CERCLA Site	6-10	Database Inventory	IOC, VOC
223	CERCLA Site	6-10	Database Inventory	IOC, VOC, SOC
224	CERCLA Site	6-10	Database Inventory	IOC, VOC
225	CERCLA Site	6-10	Database Inventory	IOC, VOC, SOC
226	RCRA Site	6-10	Database Inventory	VOC, SOC
227	RCRA Site	6-10	Database Inventory	IOC, VOC, SOC
228	RCRA Site	6-10	Database Inventory	IOC, VOC, SOC
229	RCRA Site	6-10	Database Inventory	IOC, VOC, SOC
230	RCRA Site	6-10	Database Inventory	IOC, VOC, SOC
231	RCRA Site	6-10	Database Inventory	IOC, VOC, SOC
232	RCRA Site	6-10	Database Inventory	VOC, SOC
233	RCRA Site	6-10	Database Inventory	IOC, VOC, SOC

Site #	Source Description[1]	TOT Zone (years)[2]	Source of Information	Potential Contaminants[3]
234	RCRA Site	6-10	Database Inventory	IOC, VOC, SOC
235	RCRA Site	6-10	Database Inventory	IOC, VOC, SOC
236	RCRA Site	6-10	Database Inventory	IOC, VOC, SOC
237	RCRA Site	6-10	Database Inventory	IOC, VOC, SOC
238	RCRA Site	6-10	Database Inventory	IOC, VOC, SOC
239	RCRA Site	6-10	Database Inventory	VOC, SOC
240	RCRA Site	6-10	Database Inventory	IOC, VOC, SOC
241	RCRA Site	6-10	Database Inventory	IOC, VOC, SOC
242	Mine	6-10	Database Inventory	IOC, VOC, SOC
243	SARA Site	6-10	Database Inventory	VOC, SOC
244	SARA Site	6-10	Database Inventory	VOC, SOC
245	SARA Site	6-10	Database Inventory	IOC, VOC
246	SARA Site	6-10	Database Inventory	VOC, SOC
247	SARA Site	6-10	Database Inventory	IOC, VOC, SOC
248	SARA Site	6-10	Database Inventory	VOC, SOC
249	SARA Site	6-10	Database Inventory	IOC, VOC, SOC
250	SARA Site	6-10	Database Inventory	VOC, SOC
251	SARA Site	6-10	Database Inventory	IOC, VOC, SOC
252	Wastewater Land Application Site	6-10	Enhanced Inventory	IOC
253	Major Transportation Corridor	0-3	GIS Map	IOC, VOC, SOC, Microbials
254	Railroad	0-3	GIS Map	IOC, VOC, SOC, Microbials
255	Surface Water	0-3	GIS Map	IOC, VOC, SOC, Microbials
256	Major Transportation Corridor	0-3	GIS Map	IOC, VOC, SOC, Microbials
257	Aboveground Storage Tank	0-3	Database Inventory	VOC, SOC
258	Pipeline	0-3	Enhanced Inventory	VOC, SOC
259	NPDES Site	0-3	Database Inventory	IOC, Microbials
260	Major Transportation Corridor	3-6	GIS Map	IOC, VOC, SOC
261	Railroad	3-6	GIS Map	IOC, VOC, SOC
262	Surface Water	3-6	GIS Map	IOC, VOC, SOC
263	Waste Pond	3-6	GIS Map	IOC
264	Major Transportation Corridor	3-6	GIS Map	IOC, VOC, SOC
265	Major Transportation Corridor	6-10	GIS Map	IOC, VOC, SOC
266	Surface Water	6-10	GIS Map	IOC, VOC, SOC
267	Railroad	6-10	GIS Map	IOC, VOC, SOC
268	Major Transportation Corridor	6-10	GIS Map	IOC, VOC, SOC
269	Salvage Yard	6-10	Enhanced Inventory	IOC, VOC, SOC
270	Truck Repair	6-10	Enhanced Inventory	IOC, VOC, SOC
271	UST Site-Open	0-3	Enhanced Inventory	VOC, SOC

Site #'s are non-sequential

[1] SARA = Superfund Amendments and Reauthorization Act, RCRA = Resource Conservation Recovery Act, CERCLA = Comprehensive Environmental Response Compensation and Liability Act, TRI = Toxic Release Inventory NPDES = National Pollutant Discharge Elimination System, UST = underground storage tank, LUST = leaking underground storage tank, [2]TOT = time-of-travel (in years) for a potential contaminant to reach the wellhead, [3] IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

Appendix B

Simplot Research Center
Susceptibility Analysis Worksheet

The final scores for the susceptibility analysis were determined using the following formulas:

1) VOC/SOC/IOC Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.2)

2) Microbial Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.375)

Final Susceptibility Scoring:

0 - 5 Low Susceptibility

6 - 12 Moderate Susceptibility

≥ 13 High Susceptibility

Ground Water Susceptibility Report Public Water System Name :SIMPLOT RESEARCH CENTER Public Water System Number 6390035 FRONTIER WELL

1. System Construction		SCORE
Drill Date	unknown	
Driller Log Available	NO	
Sanitary Survey (if yes, indicate date of last survey)	YES	1998
Well meets IDWR construction standards	NO	1
Wellhead and surface seal maintained	NO	1
Casing and annular seal extend to low permeability unit	NO	2
Highest production 100 feet below static water level	NO	1
Well located outside the 100 year flood plain	NO	1
Total System Construction Score		6

2. Hydrologic Sensitivity		
Soils are poorly to moderately drained	YES	0
Vadose zone composed of gravel, fractured rock or unknown	YES	1
Depth to first water > 300 feet	NO	1
Aquitard present with > 50 feet cumulative thickness	NO	2
Total Hydrologic Score		4

3. Potential Contaminant / Land Use - ZONE 1A		IOC Score	VOC Score	SOC Score	Microbial Score
Land Use Zone 1A	IRRIGATED CROPLAND	2	2	2	2
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A	YES	NO	YES	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A		2	2	2	2

Potential Contaminant / Land Use - ZONE 1B					
Contaminant sources present (Number of Sources)	YES	15	23	24	8
(Score = # Sources X 2) 8 Points Maximum		8	8	8	8
Sources of Class II or III leacheable contaminants or	YES	12	23	4	
4 Points Maximum		4	4	4	
Zone 1B contains or intercepts a Group 1 Area	YES	0	2	0	0
Land use Zone 1B	Greater Than 50% Irrigated Agricultural Land	4	4	4	4
Total Potential Contaminant Source / Land Use Score - Zone 1B		16	18	16	12

Potential Contaminant / Land Use - ZONE II					
Contaminant Sources Present	YES	2	2	2	
Sources of Class II or III leacheable contaminants or	YES	1	1	1	
Land Use Zone II	Greater Than 50% Irrigated Agricultural Land	2	2	2	
Potential Contaminant Source / Land Use Score - Zone II		5	5	5	0

Potential Contaminant / Land Use - ZONE III					
Contaminant Source Present	YES	1	1	1	
Sources of Class II or III leacheable contaminants or	YES	1	1	1	
Is there irrigated agricultural lands that occupy > 50% of	YES	1	1	1	
Total Potential Contaminant Source / Land Use Score - Zone III		3	3	3	0
Cumulative Potential Contaminant / Land Use Score		26	28	26	14
4. Final Susceptibility Source Score		15	16	15	15
5. Final Well Ranking		High	High	High	High